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LABORATORY BULLETIN

DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES, HELENA, MONTANA

No. 67



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No. 67 Editor: David B. Lackman, Ph.D., Administrator, Laboratory Division, Dec. 1, 1976

In the last bulletin (No. 66), I gave the price of "ASM-2 Performance Standards for Antimicrobial Disc Susceptibility Tests" as \$3.00. This is an error; the price was increased to \$5.00 on June 1, 1976. This publication is a most useful laboratory aid and is available from :

NATIONAL COMMITTEE FOR CLINICAL LABORATORY STANDARDS
771 E. Lancaster Avenue - Villanova, PA. 19085

PLEASE ! Fill out laboratory request slips properly. Particularly important is information on the source of the specimen, type of test you wish performed, and a bit of clinical history for our guidance. When there is a question about a specimen, we call the sender on the State communication network. However, we must now pay for this by-the-minute out of our own budgets (which, as usual, are overdrawn), so we must economize on the use of the network. A recent example of how far out the request forms can get is a sputum specimen accompanied by a virus request form, when TB bacteriology was desired !

LEPTOSPIROSIS : Please send specimens directly to : Department of Livestock,
Animal Health Division
Diagnostic Laboratory Box 997
Bozeman, Montana 59715

HOW MANY CASES OF GAS GANGRENE HAVE YOU SEEN IN THE LAST YEAR? This query was sparked by the report of 20 isolates of Clostridium perfringens from wounds in fiscal '76 (see page 33 of Big Sky Lab Bench for 1976). We suspect that these isolates represent surface contaminants or contaminants from the bowel. However, we would like to know if you have encountered cases of bone-fide gas gangrene.

INFLUENZA : Updating of survey for hemagglutination-inhibition antibodies for influenza in Montanans (see page 43 of Big Sky Lab Bench).
Individuals tested May 25, 1976 - November 17, 1976

NUMBER of persons with antibody titers:

1:10-20	1:40-320	1:10-20	1:40-320	1:10-20	1:40-320
A/Victoria / '75		A/ New Jersey / '76		B/ Hong Kong / '72	
513/1033(48%)	232/1033(22%)	112/1033(11%)	75/1033(7%)	224/901(25%)	63/901(7%)

These figures are supposed to give some indication of the number of persons who might be immune should an epidemic of Influenza due to one of these strains descend upon us. In the A/New Jersey/'76, 1:40-320 group, are uniformly found the old folks. As one goes through the individual figures, this is quite striking.

The percentages observed between different test batches are fairly constant.

It appears that Swine 'flu has caused sporadic cases among Montanans. If it breaks out in epidemic form, we should be among the first to isolate the virus - we are surely trying!

In line with notes in previous bulletins to the effect that Group B influenza would bear watching, an isolate of Group B has been reported from a 19-year old college student in South Carolina in late September; and the death of a 32-year old man with viral pneumonia due to influenza B has been reported from Scotland. Four isolates of influenza B were obtained during an outbreak in an English boarding school, Sept. 17 - Oct. 1. There have been 34 isolates of A/Victoria/'75 reported during the recent influenza epidemic on Guam.

OVERNIGHT DELIVERY OF MAIL : We had a visit from the Postal Service. They called our attention to "Option 5" which guarantees delivery within 24 hours. If you are having difficulty in getting specimens to the laboratory expeditiously, check with your local postmaster about the possibility of using "Option 5". There was also a complaint about the presentation of addresses on some of our first class mail. This particularly concerns the "window" envelopes in which reports are returned to you. Please write legibly in the block for address and use black or red ink when filling out the forms because the report which is sent to you is a copy - and blue ink doesn't copy, so we have to trace the address in black. (See page 2, Bulletin 66)

RESTRICTION OF SERVICES (CONTINUED) - CLINICAL CHEMISTRY

Walter A. Jankowski, Chief, Chemistry Laboratory Bureau

For many years the Chemistry Laboratory Bureau has accepted and analyzed samples, mostly for heavy metals, at the request of physicians, clinical laboratories, and hospitals. We felt that in so doing we were providing a needed service to those who lacked necessary capability (equipment) to perform the tests.

Because of our current Bureau-wide emphasis on upgrading our quality control programs in all areas, we are re-evaluating all services provided in terms of the quality of results which are produced. In applying these criteria and our experiences with the NIOSH and CDC-blood lead proficiency programs to our clinical chemistry effort, we have come to the realization that the "needed service" we assumed we were providing doesn't really exist; in fact, we may be doing a "disservice" by accepting and analyzing such samples.

We want to share our reasoning with you, our readers, and trust that you, too, will conclude, as we have, that this "service" needs to be discontinued:

1. Quality of results. Examples of the types of samples and requests for analysis which we have recently received are :
blood for: lead, mercury, cadmium
serum for: lithium, aluminum
urine for: lead, mercury

We have the capability, i.e. instrumentation, for running all these tests, and more. However, with the exception of blood lead, we had never done any of these analyses prior to receiving the sample. (We are now switching blood lead methods, so the following also applies at this moment to the analysis). A search of our files, literature, and reference books produced one, usually several, suggested methods of analysis. Without prior experience in the analysis to be performed, we relied on our scientific intuition, instrument capability, and information provided in the method writeups to choose the procedure we would use. Chemicals and glassware were assembled and the analysis was performed, generating a number, which was reported out. If sufficient sample was available (a rare occurrence), duplicate analyses were performed, generating two numbers. If they were "reasonably" close in value, the average was reported. If not, we had no choice but to report both values obtained and indicate that precision was poor. Lacking reference samples and standards, we had no idea how accurate our result was : were we losing the analyte? failing to eliminate interferences? If "normal range" were available we could check the reasonableness of our values. But, to be perfectly honest, we had little or no idea of how reliable or meaningful our result was.

When one considers that correct diagnosis and treatment of a patient is dependent in part upon the physician's assuming our results are reliable - something we cannot guarantee - it makes no sense to continue offering our services and producing our "numbers".

2. Turnaround time. Every chemist in our Bureau is assigned to, and paid by, one or more programs of the Environmental Sciences Division of our Department. First priority on samples must go to these programs; clinical samples are worked into the schedule when time allows. Thus, analysis of these samples may take from one day to two or three weeks. In very few instances can this length of delay be tolerated by those seeking our analytical help.

3. Chemist time and cost. Clinical samples almost always are received in batches of one. A single sample typically consumes at least four hours' analyst time. At a cost of \$12.00/hour, the analysis becomes quite expensive. Past policy was to absorb this cost ourselves; this resulted in one of the Environmental programs "footing the bill". At present, we are charging this cost to the patient - in addition to being an unreasonable expense to the patient (see 4, below), it still removes four hours or more of available analytical time from one of our Department's programs.

4. Existence of other labs. The final reason in favor of our discontinuing these services is the existence of commercial laboratories that offer all the benefits which we cannot:

- personnel experienced in these types of analysis
- known, guaranteed precision and accuracy
- known, fast turnaround time
- reasonable cost (metals analyses are less than half of our costs)
- technical consultation and assistance

Thus, we feel it is in the best interest of everyone concerned to discontinue this "service" until such time as we begin routine analysis of these samples.

Examples of such laboratories (write for their booklets listing capabilities and submitted procedures):

Mayo Medical Laboratories
200 First Street Southwest
Rochester, Minnesota 59901
(800) 533-0367 or 533-0368

Reference Laboratory
1011 Rancho Conejo Boulevard
Newbury Park, California 91320
(805) 498-3181

Bio Science Labs
7600 Tyrone Avenue
Van Nuys, Calif. 91405
(800) 423-3146

A CLINICAL VIROLOGY LABORATORY IN MONTANA: A syllabus has been received from the MISSOULA DIAGNOSTIC LABORATORY. A quote from the first page describes their offering. "Missoula Diagnostic Laboratory is a non-profit laboratory dedicated to diagnostic services, training, and education. The services will be limited to those described in the syllabus, but special requests not listed may be performed by prior arrangements. Additional services, particularly in serology, will be offered as the antigens and other systems are developed and evaluated for reliability and accuracy. "Agents listed are: parainfluenza virus, respiratory syncytial virus, adenovirus, rubella, rubeola, mumps, rhinovirus, reovirus, picornaviruses, arbovirus, Colorado tick fever, Herpesvirus hominis types I and II, cytomegalovirus, and Epstein-Barr virus. If you are curious as to the individual viruses included in some of these groups, write for the syllabus - it is an excellent reference.

MISSOULA DIAGNOSTIC LABORATORY, c/o MISSOULA GENERAL HOSPITAL, MISSOULA, MT 59801
(Telephone : 542-2191)

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